Title (en)

A METHOD AND APPARATUS FOR FULL DUPLEX SIGNALING ACROSS A PULSE TRANSFORMER

Title (de)

VERFAHREN UND VORRICHTUNG ZUR VOLLDUPLEXSIGNALISIERUNG ÜBER EINEN IMPULSTRANSFORMATOR

Title (fr)

PROCEDE ET APPAREIL DE SIGNALISATION DUPLEX INTEGRALE DANS UN TRANSFORMATEUR D'IMPULSIONS

Publication

EP 1634436 A1 20060315 (EN)

Application

EP 04753777 A 20040528

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Abstract (en)

[origin: US2004239487A1] Simultaneous bi-directional communication of digital signals across an isolation barrier, such as a pulse transformer, is presented. On the pimary side of the barrier, a voltage driver drives a digital transmit data stream, that is encoded to be DC balanced in both current and voltage domains, across the barrier. On the secondary side, an impedance switching circuit modulates the load impedance of the voltage driver in accordance with a digital receive data stream. The modulation of the load impedance is detected on the primary side by sampling the sourced current of the voltage driver to extract the digital receive data. The voltage driver may be sampled at predictable points in time when the current it is sourcing is primarily dependent upon the load impedance of the secondary side. Alternatively, the magnetizing inductance current of the isolation barrier can be subtracted from the current sourced due to the known transmit data.

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US 85746904 A 20040528; CN 200480022141 A 20040528; EP 04753777 A 20040528; JP 2006533514 A 20040528; US 2004017020 W 20040528